

Step-by-Step Guide to Open-E DSS V7 Active-Active iSCSI Failover

Software Version: DSS ver. 7.00 up01

Presentation updated: September 2012

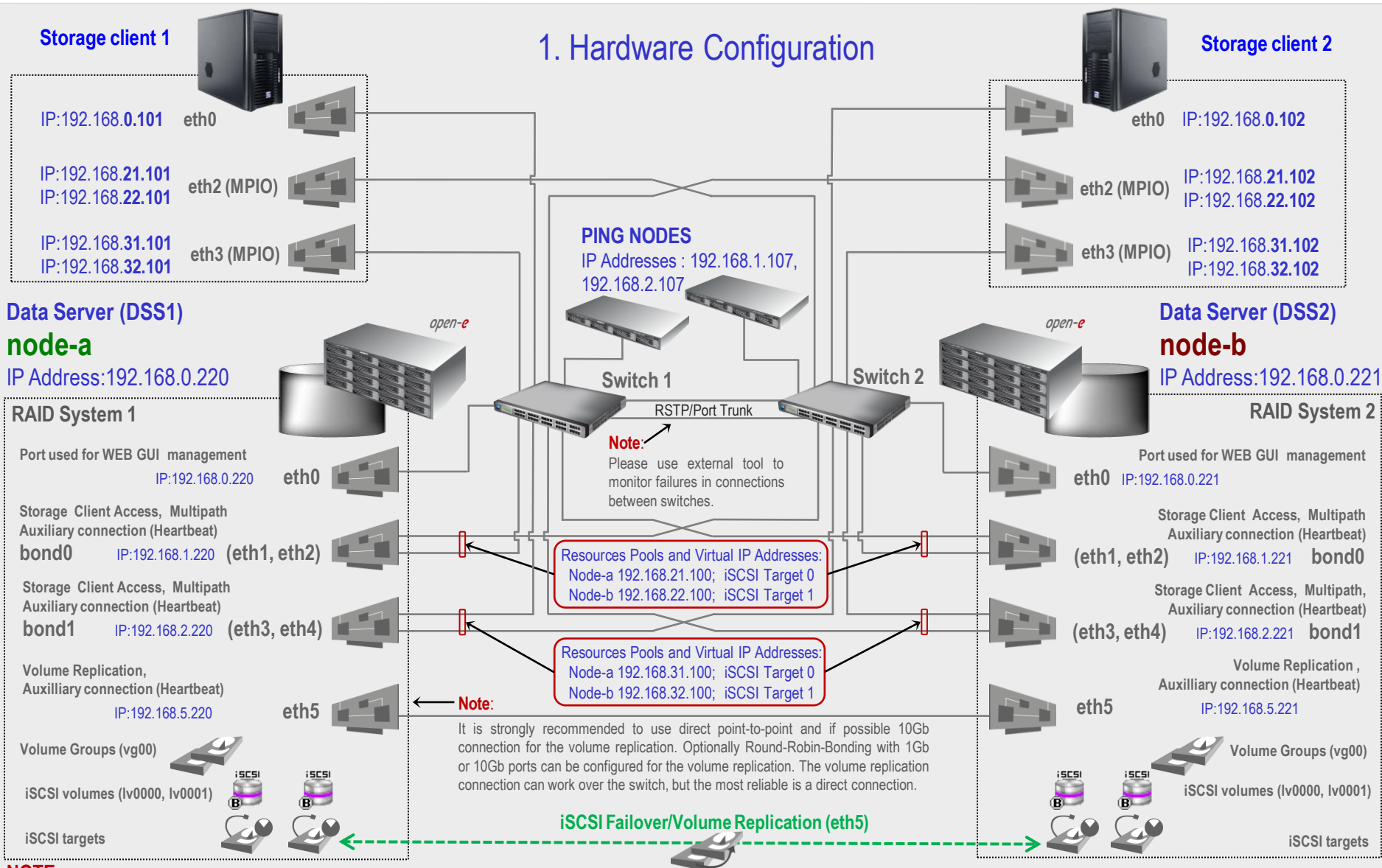
TO SET UP ACTIVE-ACTIVE iSCSI FAILOVER, PERFORM THE FOLLOWING STEPS:

1. Hardware configuration:
2. Network Configuration
 - Set server hostnames and ethernet ports on both nodes (node-a, node-b)
3. Configure the node-b:
 - Create a Volume Group, iSCSI Volume
 - Configure Volume Replication mode (destination and source mode) – define remote mode of binding , create Volume Replication task and start the replication task
4. Configure the node-a
 - Create a Volume Group, iSCSI Volume
 - Configure Volume Replication mode (source and destination mode), create Volume Replication task and start the replication task.
5. Create targets (node-a and node-b)
6. Configure Failover (node-a and node-b)
7. Start Failover Service
8. Test Failover Function
9. Run Failback Function

Open-E DSS V7 Active-Active iSCSI Failover

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1. Hardware Configuration



NOTE:

To prevent switching loops, it's recommended to use RSTP (802.1w) or Port Trunking on network switches used to build A-A Failover network topology.

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Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

After logging on to the Open-E DSS V7 (node-b), please go to **SETUP** and choose the „**Network interfaces**” option. In the **Hostname** box, replace the "dss" letters in front of the numbers with „node-b” server, in this example „**node-b-59979144**” and click the **apply** button (this will require a reboot).

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup » Network interfaces

Interfaces [gear] [?]

- eth0
- eth1
- eth2
- eth3
- eth4
- eth5

Server name [refresh] [C] [?]

Server name:

Comment:

apply

Hostname [refresh] [C] [?]

Hostname:

apply

Please apply changes or press "reload" button to discard

DNS settings [refresh] [C] [?]

DNS:

apply

★ Event Viewer

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Data Server (DSS2)

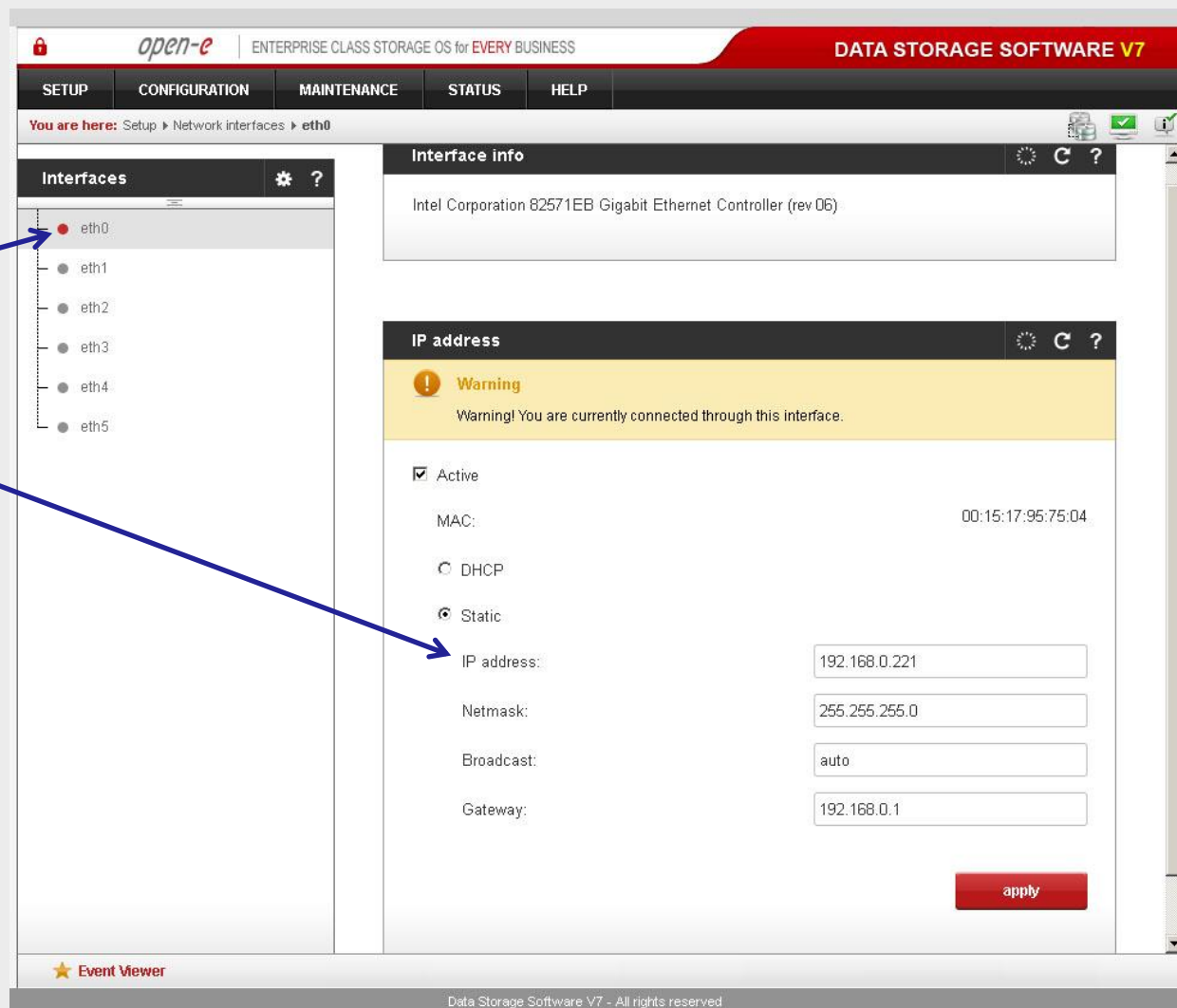
node-b

IP Address:192.168.0.221

2. Network Configuration

Next, select **eth0** interface and in the **IP address field**, change the IP address from 192.168.0.220 to 192.168.0.221

Then click **apply** (this will restart network configuration).



The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: Setup > Network interfaces > eth0'. On the left, the 'Interfaces' panel lists eth0, eth1, eth2, eth3, eth4, and eth5, with eth0 selected. The main panel displays 'Interface info' for 'Intel Corporation 82571EB Gigabit Ethernet Controller (rev 06)'. Below this, the 'IP address' section shows a warning: 'Warning! You are currently connected through this interface.' The configuration is set to 'Active' with a MAC address of '00:15:17:95:75:04'. The 'Static' option is selected for IP configuration. The IP address field is set to '192.168.0.221', the netmask is '255.255.255.0', the broadcast is 'auto', and the gateway is '192.168.0.1'. An 'apply' button is at the bottom right. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Once again, select **Interfaces** and in the „**Create new bond interface**” function check two boxes with **eth1** and **eth2**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

Next, in the field **Address IP** enter 192.168.1.221 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes

Create: **New balance-alb**

MAC: 02:38:22:48:C2:69

☐ DHCP

☒ Static

Address IP: 192.168.1.221

Netmask: 255.255.255.0

Broadcast:

Gateway:



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Again, in the „Create new bond interface” function check two boxes with **eth3** and **eth4**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

Next, in the field **Address IP** enter 192.168.2.221 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

Interfaces

- eth0
- eth1 (bond0)
- eth2 (bond0)
- eth3
- eth4
- eth5
- bond0

Create new bond interface

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	no (bond0)
<input type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	no (bond0)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes

Create: **New balance-alb**

MAC: 02:2C:27:3B:54:97

☐ DHCP

☒ Static

Address IP: 192.168.2.221

Netmask: 255.255.255.0

Broadcast:

Gateway:

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Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Next, select **eth5** interface and in the **IP address** field, change the IP address from 192.168.5.220 to 192.168.5.221 and click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Network interfaces > eth5'. On the left, a list of interfaces shows 'eth5' selected. On the right, the 'Interface info' section displays 'Intel Corporation 82546GB Gigabit Ethernet Controller (rev 03)'. Below this, the 'IP address' section shows 'Active' checked, 'DHCP' unselected, and 'Static' selected. The 'IP address' field is set to '192.168.5.221', 'Netmask' is '255.255.255.0', 'Broadcast' is 'auto', and 'Gateway' is empty. An 'apply' button is at the bottom right. A footer note states: 'Activation required. Without activation system services will continue running for 30 days after volume group creation. Data Storage Software V7 - All rights reserved.'



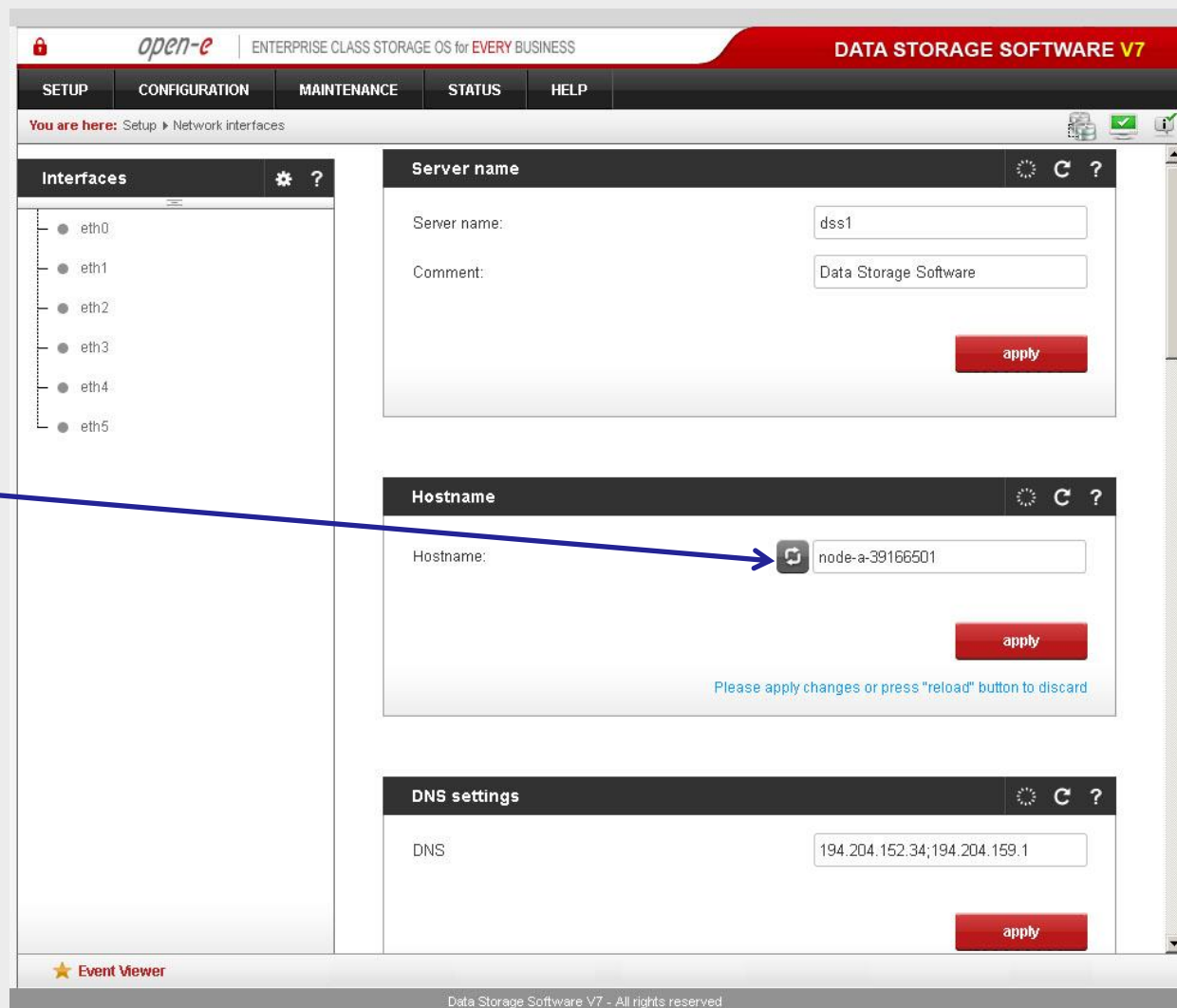
Data Server (DSS1)

node-a

IP Address:192.168.0.220

2. Network Configuration

After logging in to node-a, please go to **SETUP** and choose the „**Network interfaces**” option. In the **Hostname** box, replace the "dss" letters in front of the numbers with „node-a” server, in this example „**node-a-39166501**” and click **apply** (this will require a reboot).





Data Server (DSS1)

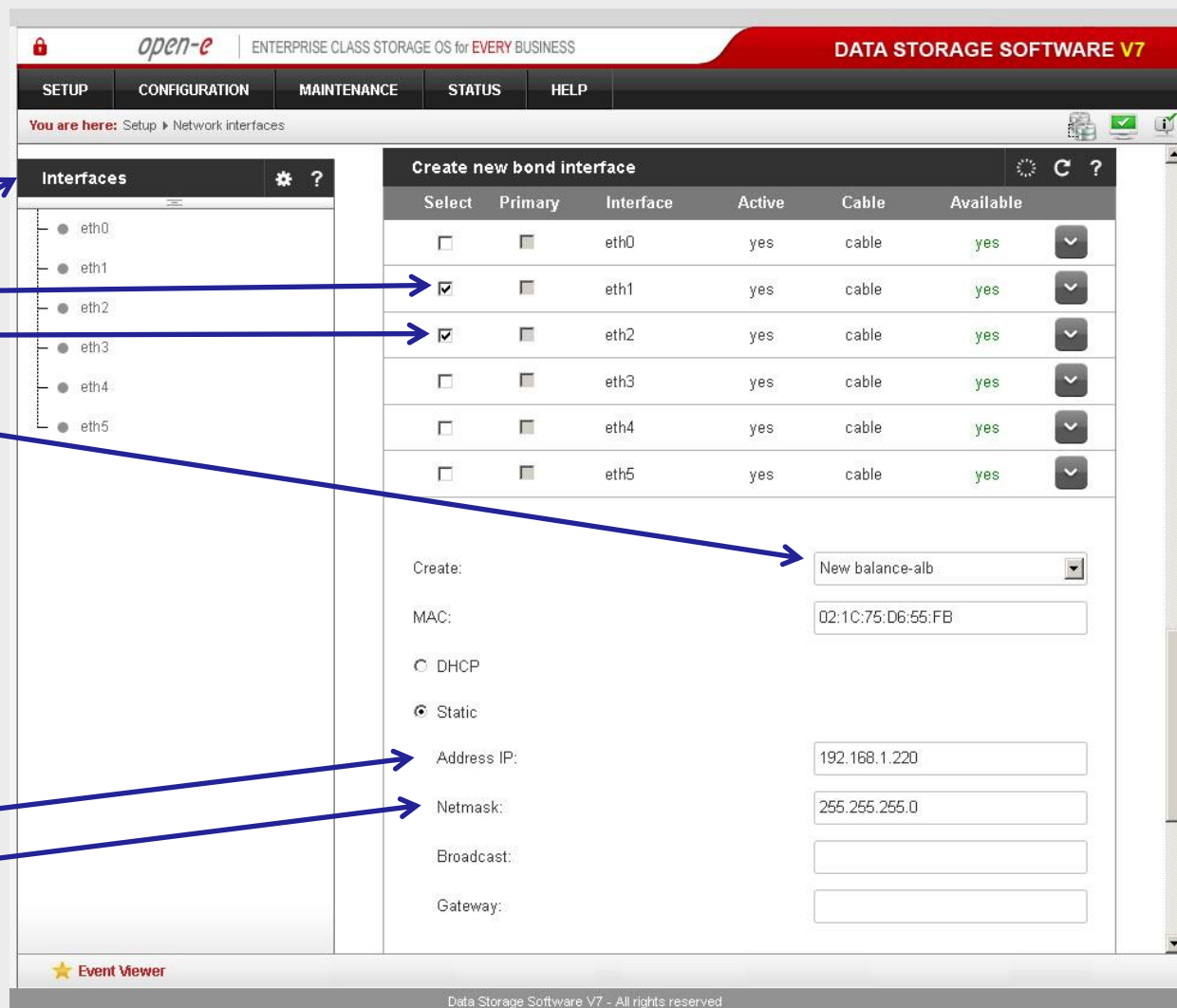
node-a

IP Address:192.168.0.220

2. Network Configuration

Next, select **Interfaces** and in the „Create new bond interface” function check two boxes with **eth1** and **eth2**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

In the field **Address IP** enter 192.168.1.220 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.



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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: Setup » Network interfaces

Interfaces

- eth0
- eth1
- eth2
- eth3
- eth4
- eth5

Create new bond interface

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes

Create: **New balance-alb**

MAC: 02:1C:75:D6:55:FB

☐ DHCP

☒ Static

Address IP: 192.168.1.220

Netmask: 255.255.255.0

Broadcast:

Gateway:

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

2. Network Configuration

Again in the „**Create new bond interface**” function check two boxes with **eth3** and **eth4**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

Next, in the field **Address IP** enter 192.168.2.220 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	no (bond0)
<input type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	no (bond0)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes

Create: **New balance-alb**

MAC: 02:1C:26:AA:B4:38

☐ DHCP

☒ Static

Address IP: 192.168.2.220

Netmask: 255.255.255.0

Broadcast:

Gateway:

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Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Under **CONFIGURATION**, select „Volume manager”, then click on „Volume groups”.

In the **Unit manager** function menu, add the selected physical units (**Unit MD0** or other) to create a new volume group (in this case, **vg00**) and click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume groups.

The left sidebar contains a tree view with the following items:

- Vol. groups (selected)
- Unit rescan
- Unit manager
- Vol. replication

The main content area displays the 'Unit manager' section, which includes a table of units and a form for creating a new volume group.

Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/> Unit MD0	298.10	N/A	available

Below the table, the 'Action' dropdown is set to 'new volume group' and the 'Name' field contains 'vg00'. The 'apply' button is visible at the bottom right of the form.

At the bottom of the interface, there is a 'Drive identifier' section with a table of drives:

Unit	Serial number	Status
<input type="checkbox"/> Unit S000	9RA6VDG3	
<input type="checkbox"/> Unit S001	9SY0QWBT	

The footer of the interface includes an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. Please set 2 logical volumes in the Active-Active option. The 1st logical volume (**lv0000**) will be a destination of the replication process on node-b.

Next, check the box **Use volume replication**.

After assigning an appropriate amount of space for the iSCSI volume, click the **apply** button

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Vol. groups

- vg00

Volume manager

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	290.06

Action: new iSCSI volume

Options: Just create volume

☒ Use volume replication

☐ File I/O

☒ Initialize

Rate: medium

☒ Block I/O

0 290.06

< > add: 50 GB (+0.12 GB for replication)

apply

Please apply changes or press "reload" button to discard

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Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Next, create the 2nd logical volume on the node-b. Logical volume (**lv0001**) will be the source of the replication process on this node.

Next, check the box **Use volume replication**.

After assigning an appropriate amount of space for the iSCSI volume, click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume groups > vg00.

The main content area is divided into two panels. The left panel, titled "Vol. groups", shows a list of volume groups with "vg00" selected. The right panel, titled "Vol. replication", shows the configuration options for a new logical volume.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	iSCSI		✓		N/A	50.00

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.13
Free	239.94

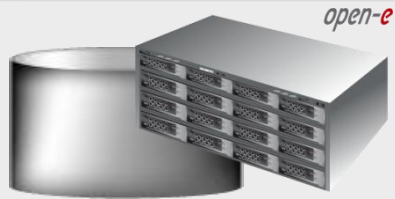
The "Vol. replication" panel includes the following configuration options:

- Action: new iSCSI volume
- Options: Just create volume
- ☒ Use volume replication
- ☐ File I/O
- ☒ Initialize
- Rate: medium
- ☒ Block I/O
- Slider: 0 to 239.94 GB
- add: 50 GB (+0.12 GB for replication)
- apply button

The bottom of the interface shows an "Event Viewer" icon and the text "Data Storage Software V7 - All rights reserved".

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Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

2 logical iSCSI Volume Block I/O
are now configured.



iSCSI volume (lv0000) is set to destination



iSCSI volume (lv0001) is set to source

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Vol. groups

- vg00

Vol. replication

Volume manager

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	iSCSI		✓		N/A	50.00
lv0001	iSCSI		✓		N/A	50.00
System volumes						Size (GB)
SWAP						4.00
Reserved for snapshots						0.00
Reserved for system						4.00
Reserved for replication						0.25
Free						189.81

Action: new NAS volume

☐ Use volume replication

☐ WORM

0 189.81

< > add: 0.00 GB

apply

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Open-E DSS V7 Active-Active iSCSI Failover

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Under **CONFIGURATION**, select „Volume manager” and then click on „Volume groups”.

Add the selected physical units (Unit S001 or other) to create a new volume group (in this case, vg00) and click **apply** button.



Volume Groups (vg00)

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups

Vol. groups [Settings] [Help]

Unit rescan [Refresh] [Help]

Unit manager [Refresh] [Help]

Unit	Size (GB)	Serial number	Status
Unit S001	465.70	N/A	available

Action: new volume group [Dropdown]

Name: vg00 [Text]

apply

Please apply changes or press "reload" button to discard

Vol. replication [Settings] [Help]

Drive identifier [Refresh] [Help]

Unit	Serial number	Status
Unit S001	N/A	

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. Please set 2 logical volumes in the Active-Active option. The 1st logical volume (**lv0000**) will be a source of the replication process on the node-a.

Next, check the box for „**Use volume replication**”

After assigning an appropriate amount of space to the iSCSI volume, click the **apply** button.

NOTE:

The source and destination volumes must be of identical size.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Vol. groups

- vg00

Vol. replication

Volume manager

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	457.66

Action: new iSCSI volume

Options: Just create volume

☒ Use volume replication

☐ File I/O

☒ Initialize

Rate: medium

☒ Block I/O

0 457.66

< > add: 50 GB (+0.12 GB for replication)

apply

Please apply changes or press "reload" button to discard

Event Viewer

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Next, create the 2nd logical volume on the node-a. Logical volume (lv0001) will be a destination of the replication process on this node.

Next, check the box for „Use volume replication”.

After assigning an appropriate amount of space to the iSCSI volume, click the **apply** button.

NOTE:

The source and destination volumes must be of identical size.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume groups > vg00.

The main content area is divided into two panels. The left panel, titled 'Vol. groups', shows a list of volume groups with 'vg00' selected. The right panel, titled 'Vol. replication', shows the configuration for a new iSCSI volume.

The 'Vol. replication' panel includes the following fields and options:

- Action:** A dropdown menu set to 'new iSCSI volume'.
- Options:** A dropdown menu set to 'Just create volume'.
- Use volume replication:** A checked checkbox.
- File I/O:** An unchecked radio button.
- Initialize:** A checked checkbox.
- Rate:** A dropdown menu set to 'medium'.
- Block I/O:** A checked radio button.
- Size:** A slider bar ranging from 0 to 407.53 GB, with a value of 50 GB selected.
- add:** A button to add space to the volume.
- apply:** A red button to apply the configuration.

The bottom of the interface shows the 'Event Viewer' and the footer text 'Data Storage Software V7 - All rights reserved'.

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

2 logical iSCSI Volume Block I/O
are now configured.



iSCSI volume (Lv0000) is set to source



iSCSI volume (Lv0001) is set to destination

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DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume replication > vg00

Vol. groups

vg00

Vol. replication

Volume manager

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
Iv0000	iSCSI		✓		N/A	50.00
Iv0001	iSCSI		✓		N/A	50.00

System volumes

	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.25
Free	357.41

Action: new NAS volume

☐ Use volume replication

☐ WORM

0 357.41

< > add: 0.00 GB

apply

★ Event Viewer

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Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Now, on the node-b, go to „**Volume replication**”. Within **Volume replication mode** function, check the **Destination** box for **lv0000** and check the **Source** box for **lv0001**. Then, click the **apply** button.

In the **Hosts binding** function, enter the IP address of node-a (in our example, this would be 192.168.5.220), enter node-a administrator password and click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume replication.

Vol. groups section shows a single group named 'vg00'.

Volume replication mode section displays a table with the following data:

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

An 'apply' button is located below the table. A message at the bottom of this section reads: "Please apply changes or press 'reload' button to discard".

Hosts binding section includes a 'Define remote node' form with the following fields:

- Remote node IP address: 192.168.5.220
- Remote node GUI (administrator) password: [masked]

A 'connect' button is located below the form.

Create new volume replication task section shows an 'Info' message: "Volume replication tasks can not be created because there is no remote node connected."

The bottom of the interface features an 'Event Viewer' icon and a footer stating "Data Storage Software V7 - All rights reserved".

NOTE:

The remote node IP Address must be on the same subnet in order for the replication to communicate. VPN connections can work providing you are not using a NAT. Please follow example:

- node-a: 192.168.5.220
- node-b: 192.168.5.221



Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Next, on the node-a, go to „Volume replication”. Within **Volume replication mode** function, check the **Source** box for **lv0000** and check the **Destination** box for **lv0001**. Next, click the **apply** button.

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Hosts binding

Remote node

Host name: node-b-5... IP address: 192.168.5.221 Status: Reachable

Create new volume replication task

Task name:

Source volume:




Data Server (DSS1)

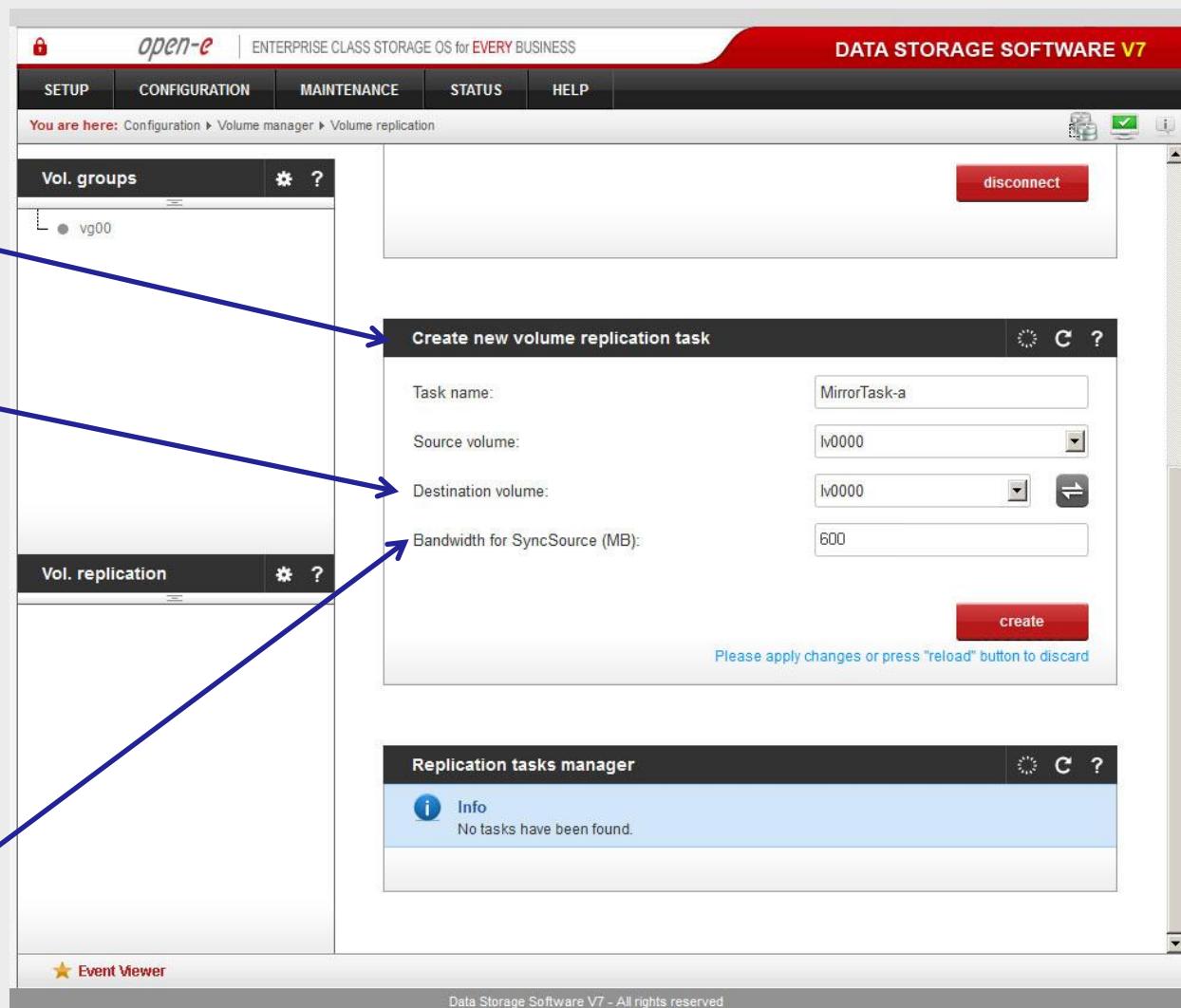
node-a

IP Address:192.168.0.220

4. Configure the node-a

In the **Create new volume replication task**, enter the task name in the **Task name** field, then click on the  button. In the **Destination volume** field, select the appropriate volume (in this example, **lv0000**).

In case of a 10GbE connection it is recommended to set for the replication a higher **Bandwidth for SyncSource (MB)**. To achieve better performance you can set 500MB. In the example, maximum 600MB is used. Next, click the **create** button.



The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: Configuration > Volume manager > Volume replication'. The left sidebar shows 'Vol. groups' with 'vg00' and 'Vol. replication'. The main content area displays the 'Create new volume replication task' form. The form fields are: 'Task name' (MirrorTask-a), 'Source volume' (lv0000), 'Destination volume' (lv0000), and 'Bandwidth for SyncSource (MB)' (600). A 'create' button is at the bottom right of the form. Below the form is the 'Replication tasks manager' section, which currently shows 'No tasks have been found.' The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Now, in the **Replication task manager** function, click the corresponding „play” button to start the Replication task on the node-a.

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Configuration > Volume manager > Volume replication'. The left sidebar shows 'Vol. groups' with 'vg00' and 'Vol. replication' with 'MirrorTask-a'. The main content area has three sections: 'Hosts binding' showing a remote node 'node-b-5...' with IP '192.168.5.221' and status 'Reachable'; 'Create new volume replication task' with an info message; and 'Replication tasks manager' with a table listing 'MirrorTask-a' and a play button. A blue arrow points from the text box to this play button. The footer shows 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Name	Start time	Action
MirrorTask-a	n/a	



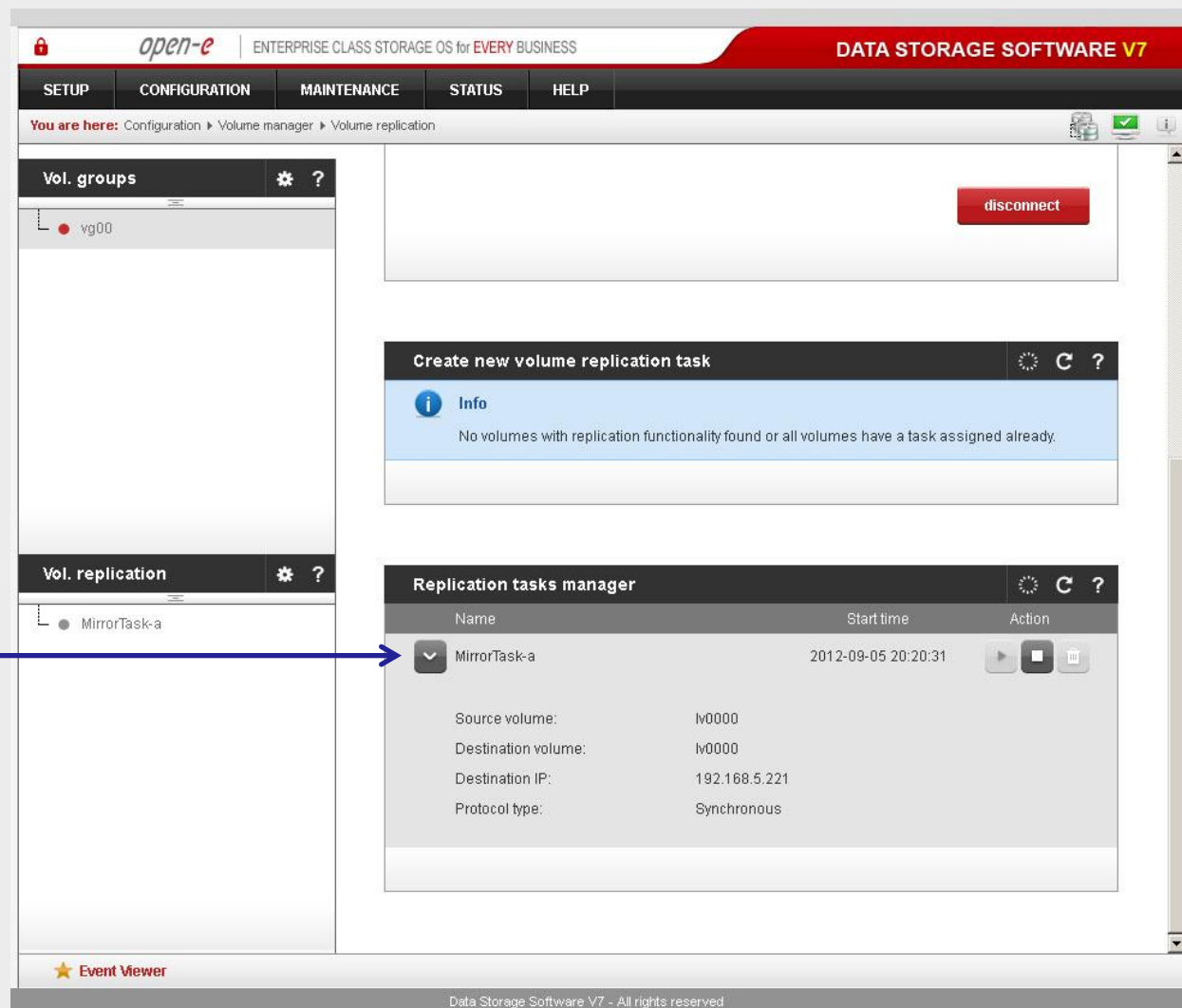
Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

In the **Replication tasks manager** function, information is available on currently running replication tasks. When a task is started, a date and time will appear.



The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume replication. The left sidebar shows a tree view with 'Vol. groups' (containing 'vg00') and 'Vol. replication' (containing 'MirrorTask-a'). The main content area features a 'disconnect' button, a 'Create new volume replication task' section with an info message, and the 'Replication tasks manager' table.

Name	Start time	Action
MirrorTask-a	2012-09-05 20:20:31	[Play] [Stop] [Delete]

Source volume: lv0000
Destination volume: lv0000
Destination IP: 192.168.5.221
Protocol type: Synchronous

★ Event Viewer

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

You can check the status of Volume Replication anytime in **STATUS** -> „**Tasks**” -> „**Volume Replication**” menu.

Click on the  button, located next to a task name (in this case **MirrorTask-a**) to display detailed information on the current replication task.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'STATUS' > 'Tasks' > 'Volume Replication'. On the left, a 'Tasks' sidebar lists 'Data (File) Replication', 'Antivirus', 'Volume Replication' (selected), and 'Snapshots'. The main area displays 'Running tasks' for 'MirrorTask-a', showing details like Protocol type (Synchronous), Connection (Connected), Source info (Logical volume: lv0000, Consistency: Consistent), Destination info (Logical volume: lv0000, Consistency: Consistent), and IP address (192.168.5.221). Below this is a 'Tasks log' table showing a recent task completion.

Time	Name	Type	Status	Action
2012-09-05 20:20:38	MirrorTask-a	Volume replication	OK	Started

NOTE:

Please allow the replication task to complete (similar to above with status being „Consistent”) before writing to the iSCSI Logical Volume.




Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Next, go to the node-b.
Within **Create new volume replication task**, enter the task name in the **Task name** field, then click on the  button.
In the **Destination volume** field, select the appropriate volume (in this example, **lv0001**).

As in the node-a, in the **Bandwidth for SyncSource (MB)** field you must change the value of a minimum of 500 MB. In our example 600 MB is used. Next click the **create** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: Configuration > Volume manager > Volume replication'. The left sidebar shows 'Vol. groups' with 'vg00' and 'Vol. replication' with 'MirrorTask-a_reverse'. The main content area displays the 'Create new volume replication task' form. The form fields are: 'Task name' (MirrorTask-b), 'Source volume' (lv0001), 'Destination volume' (lv0001), and 'Bandwidth for SyncSource (MB)' (600). A 'create' button is at the bottom right of the form. Below the form is a 'Replication tasks manager' table showing the existing task 'MirrorTask-a_reverse'. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Name	Start time	Action
MirrorTask-a_reverse	n/a	



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

In the **Replication tasks manager** function, click the corresponding „play” button to start the Replication task on the node-b: **MirrorTask-b**.

In this box you can find information about currently running replication tasks.

When a task is started a date and time will appear.

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume replication.

The interface is divided into several sections:

- Vol. groups:** Shows a single group named 'vg00'.
- Vol. replication:** Lists two replication tasks: 'MirrorTask-a_reverse' and 'MirrorTask-b'.
- Hosts binding:** Displays the configuration for 'node-a-3...' with an IP address of 192.168.5.220 and a status of 'Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** An informational message states: 'No volumes with replication functionality found or all volumes have a task assigned already.'
- Replication tasks manager:** A table showing the status of replication tasks.

Name	Start time	Action
MirrorTask-a_reverse	n/a	[Play] [Stop] [Delete]
MirrorTask-b	2012-09-05 20:25:27	[Play] [Stop] [Delete]

An arrow points from the 'MirrorTask-b' entry in the 'Replication tasks manager' table to the 'MirrorTask-b' entry in the 'Vol. replication' list.

At the bottom, there is an 'Event Viewer' section and a footer that reads 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

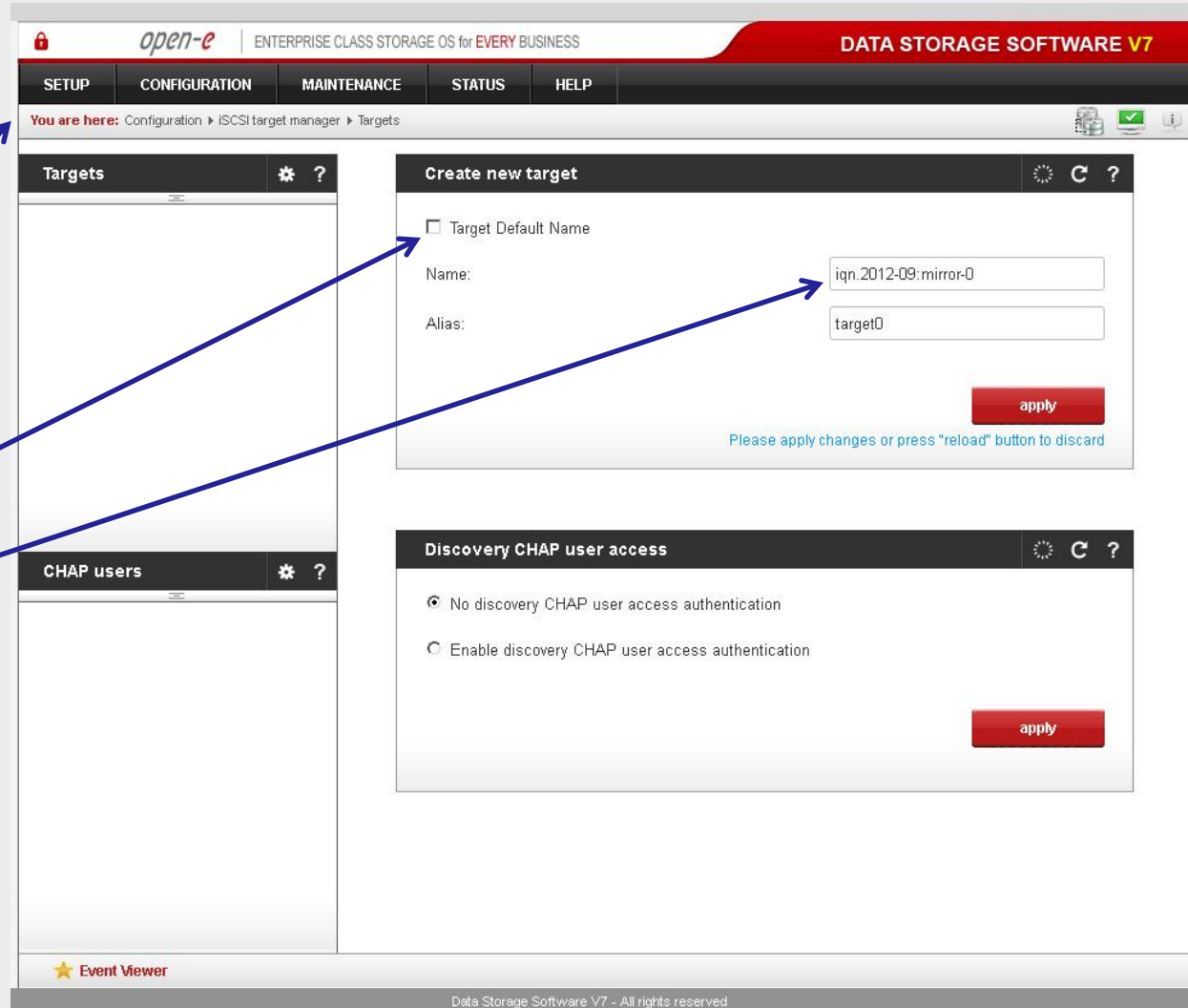
5. Create new target on the node-b

Choose **CONFIGURATION**, „iSCSI target manager” and „Targets” from the top menu.

In the **Create new target** function, uncheck the box **Target Default Name**.

In the **Name** field, enter a name for the new target and click **apply** to confirm.

iSCSI targets



The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'CONFIGURATION' tab is selected, and the breadcrumb trail indicates 'You are here: Configuration > iSCSI target manager > Targets'. The main content area is divided into two panels. The left panel, titled 'Targets', is currently empty. The right panel, titled 'Create new target', contains a form with the following fields: 'Target Default Name' (unchecked), 'Name' (filled with 'iqn.2012-09:mirror-0'), and 'Alias' (filled with 'target0'). A red 'apply' button is at the bottom right of the form. Below the 'Create new target' panel is a 'Discovery CHAP user access' section with two radio buttons: 'No discovery CHAP user access authentication' (selected) and 'Enable discovery CHAP user access authentication'. A red 'apply' button is also present here. At the bottom of the interface, there is an 'Event Viewer' section and a footer that reads 'Data Storage Software V7 - All rights reserved'.

★ Event Viewer

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NOTE:

Both systems must have the same Target name.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

5. Create new target on the node-b

Next, you must set the 2nd target. Within the **Create new target** function, uncheck the box **Target Default Name**.

In the **Name** field, enter a name for the 2nd new target and click **apply** to confirm.

iSCSI targets



NOTE:

Both systems must have the same Target name.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

5. Create new target on the node-b

After that, select **target0** within the **Targets** field.

To assign appropriate volume to the target (**iqn.2012-09:mirror-0 -> lv0000**) and click the **+** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-0 (target0).

The main content area is divided into two panels. The left panel, titled "Targets", shows a list of targets: target0 (selected) and target1. The right panel, titled "Target volume manager", displays information about the selected target and a table of volumes.

The "Target volume manager" panel includes three informational sections:

- Info:** Currently there are no LUN's added to this target. In order to add a LUN, click on the plus "+" sign in the "Action" column for this LUN.
- Info:** There are logical volumes selected as mirror destination. There is no direct access to mirror destination volume. In order to access such volume, you can stop mirror task and switch destination mode to source mode or create a snapshot on the destination volume and assign the snapshot to a new target.
- Info:** Please note that in order to access iSCSI-enabled data from an initiator, the target needs to have a LUN 0, otherwise the data in all other LUNs will be inaccessible. The data will also be inaccessible if you select an inactive snapshot or a destination volume (volume replication) as LUN 0.

The table below lists the volumes:

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	yakFXJGNEV587eA	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -
lv0001	iZGxwIh33QBSpRdN	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -

Below the table, there is a section for "CHAP user access authentication" with a radio button selected for "No CHAP user access authentication".

The bottom of the interface includes an "Event Viewer" icon and a footer stating "Data Storage Software V7 - All rights reserved".

NOTE:

Volumes on both sides must have the same SCSI ID and LUN# for example: lv0000 SCSI ID on node-a = lv0000 on node-b.

WARNING:

Please do not switch on the write back (WB) cache !



Data Server (DSS2)

node-b

IP Address:192.168.0.221

5. Create new target on the node-b

Next, select **target1** within the **Targets** field.

To assign appropriate volume to the target (iqn.2012-09:mirror-1->lv0001) and click the **+** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-1 (target1). The main content area is divided into two panels. The left panel, titled 'Targets', shows a list of targets: target0 and target1. target1 is selected. The right panel, titled 'Target volume manager', displays information about the selected target. It includes two informational messages: one stating that no LUNs are currently added and another explaining the requirement for LUN 0. Below the messages is a table with columns: Volume, SCSI ID, LUN, RO, WB, and Action. The table contains one row with Volume 'lv0001', SCSI ID 'iZGxwIh33QBSpRdN', LUN '0', and checkboxes for RO and WB. The Action column contains a '+' button and a '-' button. A blue arrow points from the '+' button in the Action column to the 'Apply' button in the 'CHAP user access authentication' section below. The 'CHAP user access authentication' section has two radio buttons: 'No CHAP user access authentication' (selected) and 'Enable CHAP user access authentication'. An 'apply' button is at the bottom right of this section. The footer of the interface includes an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.

NOTE:

Both systems must have the same SCSI ID and LUN#

WARNING:

Please do not switch on the write back (WB) cache !



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

On the node-a, choose **CONFIGURATION**, „iSCSI target manager” and „Targets” from the top menu.

Within the **Create new target** function, uncheck the box **Target Default Name**.
In the **Name** field, enter a name for the new target and click **apply** to confirm.

iSCSI targets



★ Event Viewer

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NOTE:

Both systems must have the same Target name.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

Next, you must set the 2nd target. In the **Create new target** function, uncheck the box **Target Default Name**.

In the Name field, enter a name for the 2nd new target and click **apply** to confirm.

iSCSI targets



NOTE:

Both systems must have the same Target name.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

Select the **target0** within the **Targets** field.

To assign appropriate volume to the target (**iqn.2012-09:mirror-0 -> lv0000**) and click the **+** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-0 (target0).

The main content area is divided into two panels. The left panel, titled "Targets", shows a list of targets: target0 (selected) and target1. The right panel, titled "Target volume manager", displays information about the selected target. It includes three informational sections and a table of volumes.

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	yakFXJ3NEV587eA	0	<input type="checkbox"/>	<input type="checkbox"/>	+ <input type="checkbox"/>
lv0001	79tECRjeM3GuhBfa	0	<input type="checkbox"/>	<input type="checkbox"/>	+ <input type="checkbox"/>

Below the table, there is a section for "CHAP user access authentication" with a radio button set to "No CHAP user access authentication".

At the bottom of the interface, there is an "Event Viewer" section and a footer that reads "Data Storage Software V7 - All rights reserved".

NOTE:

Before clicking the **+** button again, please copy & paste the SCSI ID and LUN# from the node-b.

WARNING:

Please do not switch on the write back cache (WB) !



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

Select the **target1** within the **Targets** field.

To assign appropriate volume to the target (iqn.2012-09:mirror-1->lv0001) and click the **+** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-1 (target1).

The main content area is divided into two panels. The left panel, titled "Targets", shows a list of targets: target0 and target1. target1 is selected and highlighted. The right panel, titled "Target volume manager", displays information about the selected target. It includes two informational messages: one about logical volumes selected as mirror destinations and another about LUN 0 access. Below these messages is a table with columns: Volume, SCSI ID, LUN, RO, WB, and Action. The table contains one row with Volume "lv0001", SCSI ID "iZGxwlh33QBSPdN", LUN "0", and checkboxes for RO and WB. The Action column has a "+" button and a "-" button. A blue arrow points from the "+" button in the Action column to the "CHAP user access authentication" section below.

The "CHAP user access authentication" section has two radio buttons: "No CHAP user access authentication" (selected) and "Enable CHAP user access authentication". An "apply" button is located at the bottom right of this section.

At the bottom of the interface, there is an "Event Viewer" icon and a footer that reads "Data Storage Software V7 - All rights reserved".

NOTE:

Before clicking the **+** button again, please copy & paste the SCSI ID and LUN# from the node-b.

WARNING:

Please do not switch on the write back cache (WB) !



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

On the node-a, go to **SETUP** and select „Failover”.

In the **Auxiliary paths** function, select the 1st New auxiliary path on the local and remote node and click the **add new auxiliary path** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' tab is active, and the breadcrumb trail shows 'You are here: Setup > Failover'. The main content area is titled 'Auxiliary paths' and contains a table with columns for 'Status', 'node-a-3... interface (local node)', and 'node-b-5... interface (remote node)'. The table shows one inactive path with local interface 'eth5 (192.168.5.220)' and remote interface 'eth5 (192.168.5.221)'. Below the table is a 'New auxiliary path' section with two dropdown menus: 'Interface on local node:' set to 'bond0 (192.168.1.220)' and 'Interface on remote node:' set to 'bond0 (192.168.1.221)'. There are 'cancel' and 'add new auxiliary path' buttons. A note at the bottom says 'Please apply changes or press "reload" button to discard'. Below this is a 'Ping nodes' section with a table for 'Ping node IP address', 'node-a-3... status (local node)', and 'node-b-5... status (remote node)'. It shows 'No ping nodes defined.' and an 'add new ping node' button. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Status	node-a-3... interface (local node)	node-b-5... interface (remote node)
Inactive	eth5 (192.168.5.220)	eth5 (192.168.5.221)

New auxiliary path

Interface on local node: bond0 (192.168.1.220)

Interface on remote node: bond0 (192.168.1.221)

cancel add new auxiliary path

Please apply changes or press "reload" button to discard

Ping nodes

Ping node IP address	node-a-3... status (local node)	node-b-5... status (remote node)
No ping nodes defined.		

add new ping node



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

In the **Auxiliary paths** function, select the 2nd **New auxiliary path** on the local and remote node and click the **add new auxiliary path** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Setup > Failover'. The main content area is titled 'Auxiliary paths' and displays a table of existing paths. Below the table is a 'New auxiliary path' section with dropdown menus for selecting interfaces on the local and remote nodes. A blue callout box points to the 'bond1 (192.168.2.220)' option in both dropdowns. At the bottom of the 'New auxiliary path' section are 'cancel' and 'add new auxiliary path' buttons. Below the 'Auxiliary paths' section is a 'Ping nodes' section, which currently shows 'No ping nodes defined.'

Status	node-a-3... interface (local node)	node-b-5... interface (remote node)	
Inactive	eth5 (192.168.5.220)	eth5 (192.168.5.221)	
Inactive	bond0 (192.168.1.220)	bond0 (192.168.1.221)	

New auxiliary path

Interface on local node:

Interface on remote node:

cancel **add new auxiliary path**

Ping node IP address	node-a-3... status (local node)	node-b-5... status (remote node)
No ping nodes defined.		



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

In the **Ping nodes** function, enter two ping nodes.
In the **IP address** field enter IP address and click the **add new ping node** button (according to the configuration in the third slide).
In this example, IP address of the first ping node is: 192.168.1.107 and the second ping node: 192.168.2.107

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

Ping nodes

Info
Ping node has been added successfully.

Ping node IP address	node-a-3... status (local node)	node-b-5... status (remote node)
192.168.1.107	Reachable	Reachable

New ping node

IP address: 192.168.2.107

cancel add new ping node

Please apply changes or press "reload" button to discard

Failover trigger policy

☐ Ignore I/O errors
☒ Trigger failover on I/O errors (any volume)
☐ Trigger failover on I/O errors (only volumes configured in failover)

[Show advanced options](#)

apply

Event Viewer

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

Next, go to the **Resources Pool Manager** function (on node-a resources) and click the **add virtual IP** button. After that, enter **Virtual IP**, (in this example 192.168.21.100 according to the configuration in the third slide) and select two appropriate interfaces on local and remote nodes. Then, click the **add** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Setup > Failover'. The main content area is titled 'Resources pool manager' and shows two resource pools: 'node-a-39166501 resources (local node)' and 'node-b-59979144 resources (remote node)'. The 'node-a' pool is selected, showing its status as 'unknown' and synchronization status as 'not configured'. Below this, there are tabs for 'Virtual IP addresses' and 'iSCSI resources'. The 'add virtual IP' form is visible, with fields for 'Virtual IP' (192.168.21.100), 'Interface on local node' (bond0 (192.168.1.220)), 'Interface on remote node' (bond0 (192.168.1.221)), 'Netmask' (255.255.255.0), and 'Broadcast (optional)'. There are 'cancel' and 'add' buttons at the bottom of the form. The bottom of the interface shows an 'Event Viewer' icon and a footer with 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

Now, still on node-a resources (local node) enter the next Virtual IP address. Click **add virtual IP** enter **Virtual IP**, (in this example 192.168.31.100), and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

Resources pool manager

node-a-39166501 resources (local node)

Status: **unknown** move

Synchronization status: not configured sync between nodes

Virtual IP addresses | iSCSI resources

add virtual IP

Virtual IP: 192.168.31.100

Interface on local node: bond1 (192.168.2.220)

Interface on remote node: bond1 (192.168.2.221)

Netmask: 255.255.255.0

Broadcast (optional):

cancel add

node-b-59979144 resources (remote node)

Status: **unknown** move

★ Event Viewer

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Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

Then, go to node-b resources and click the **add virtual IP** button again and enter the **Virtual IP** (In this example 192.168.22.100 according to the configuration in the third slide) and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

Now, still on node-b resources, click the **add virtual IP** button and enter the next **Virtual IP**, (in this example 192.168.32.100, according to the configuration in the third slide) and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Setup > Failover'. The main content area displays a table of virtual IP configurations for node-b resources. Below the table, there is a section for 'node-b-59979144 resources (remote node)' with buttons for 'move' and 'sync between nodes'. A modal window titled 'add virtual IP' is open, showing fields for 'Virtual IP', 'Interface on local node', 'Interface on remote node', 'Netmask', and 'Broadcast (optional)'. The 'Virtual IP' field contains '192.168.32.100', 'Interface on local node' is 'bond1 (192.168.2.220)', and 'Interface on remote node' is 'bond1 (192.168.2.221)'. The 'Netmask' field contains '255.255.255.0'. The 'add' button is highlighted in red.

Virtual IP	Interface on local node:	Interface on remote node:
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)
192.168.31.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)

node-b-59979144 resources (remote node)

Status: **unknown** move

Synchronization status: not configured sync between nodes

add virtual IP

Virtual IP: 192.168.32.100

Interface on local node: bond1 (192.168.2.220)

Interface on remote node: bond1 (192.168.2.221)

Netmask: 255.255.255.0

Broadcast (optional):

cancel add



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

Now you have 4 Virtual IP addresses configured on two interfaces.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Setup > Failover'. The main content area is divided into two sections: 'Virtual IP addresses' and 'iSCSI resources'. The 'Virtual IP addresses' section contains a table with two rows of configured Virtual IP addresses. The first row shows 192.168.21.100 on bond0 (192.168.1.220) and bond0 (192.168.1.221). The second row shows 192.168.31.100 on bond1 (192.168.2.220) and bond1 (192.168.2.221). Below this table, there is a section for 'node-b-59979144 resources (remote node)' which includes an 'Info' message stating 'Virtual IP has been created successfully.' and buttons for 'move' and 'sync between nodes'. The 'iSCSI resources' section is currently empty. The bottom of the interface shows an 'Event Viewer' icon and a footer with 'Data Storage Software V7 - All rights reserved'.

Virtual IP	Interface on local node:	Interface on remote node:
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)
192.168.31.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)

Virtual IP	Interface on local node:	Interface on remote node:
192.168.22.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)
192.168.32.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

When you are finished with setting the virtual IP, go to the **iSCSI resources** tab on the **local node** resources and click the **add or remove targets** button. After moving the target **mirror-0** from **Available targets** to **Targets already in cluster**, click the **apply** button.

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The main content area is titled 'Resources pool manager' and shows details for 'node-a-39166501 resources (local node)'. The 'iSCSI resources' tab is active, showing a list of 'Available targets' and 'Targets already in cluster'. The 'Available targets' list contains 'iqn.2012-09:mirror-1', and the 'Targets already in cluster' list contains 'iqn.2012-09:mirror-0'. The 'apply' button is highlighted. Below this, the 'node-b-59979144 resources (remote node)' section is visible, showing an 'Info' message: 'Virtual IP has been created successfully.' The status for both nodes is 'unknown'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

Next, go to the **iSCSI resources** tab on the **remote node resources** and click the **add or remove targets** button.

After moving the target **mirror-1** from **Available targets** to **Targets already in cluster**, click the **apply** button.

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The main content area is titled "You are here: Setup > Failover". It shows the "iSCSI resources" tab for a remote node named "node-b-59979144". The interface includes a table for "iSCSI target: target0 (iqn.2012-09:mirror-0)" with columns for Replication task (MirrorTask-a), Logical volume (lv0000), and Replication task state (OK). Below this, the "node-b-59979144 resources (remote node)" section shows the status as "inactive" and "sync between nodes" button. The "Virtual IP addresses" and "iSCSI resources" tabs are visible. The "Available targets" and "Targets already in cluster" sections are shown, with "iqn.2012-09:mirror-1" listed in the "Targets already in cluster" section. The "apply" button is highlighted.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

After that, scroll to the top of the **Failover manager** function.
At this point, both nodes are ready to start the Failover.
In order to run the Failover service, click the **start** button and confirm this action by clicking the **start** button again.

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is titled "Failover manager" and shows the "Cluster status" as "Ready for Start". A red "start" button is prominently displayed. Below this, the "Resources pool" section lists two nodes: "node-a-39166501 (local node)" and "node-b-59979144 (remote node)". Both nodes show a status of "inactive" and a replication state of "synced". The "Network statuses" section indicates that 2 of 2 nodes are reachable and 3 auxiliary paths are defined. The "Remote node status" section shows the remote node's hostname as "node-b-59979144" and its IP address as "192.168.5.221". At the bottom, there is an "Auxiliary paths" section and an "Event Viewer" icon.

Failover manager

Cluster status: Ready for Start

All required settings have been set up, cluster is ready to be started.

start

Resources pool

node-a-39166501 (local node) resources pool:

Status: inactive

Replication state: **synced**

node-b-59979144 (remote node) resources pool:

Status: inactive

Replication state: **synced**

[See details >](#)

Network statuses

Ping nodes: **2 of 2 reachable**

[See details >](#)

Auxiliary paths: 3 defined

[See details >](#)

Remote node status

Remote node availability: **Reachable**

Remote node hostname: **node-b-59979144**

Remote node IP: **192.168.5.221**

[See details >](#)

Auxiliary paths

★ Event Viewer

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NOTE:

If the start button is grayed out, the setup has not been completed.



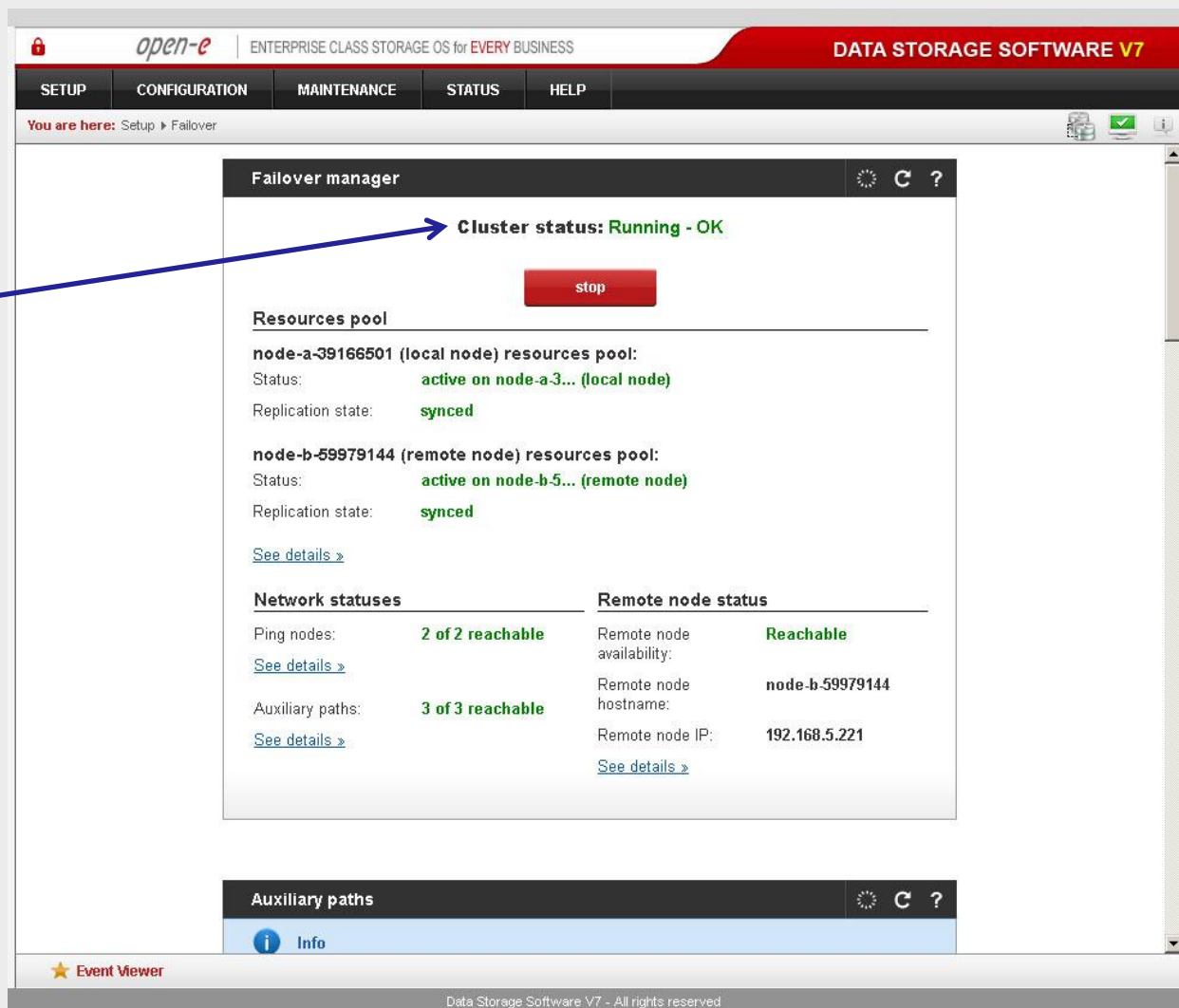
Data Server (DSS1)

node-a

IP Address: 192.168.0.220

7. Start Failover Service

After clicking the **start** button, configuration of both nodes is complete.



The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The main content area is titled "Failover manager" and displays the following information:

- Cluster status:** Running - OK (indicated by a green arrow pointing to the status text).
- Resources pool:**
 - node-a-39166501 (local node) resources pool:**
 - Status: active on node-a-3... (local node)
 - Replication state: synced
 - node-b-59979144 (remote node) resources pool:**
 - Status: active on node-b-5... (remote node)
 - Replication state: synced
- Network statuses:**
 - Ping nodes: 2 of 2 reachable
 - Auxiliary paths: 3 of 3 reachable
- Remote node status:**
 - Remote node availability: Reachable
 - Remote node hostname: node-b-59979144
 - Remote node IP: 192.168.5.221

At the bottom of the interface, there is an "Auxiliary paths" section and an "Event Viewer" tab.

NOTE:

You can now connect with iSCSI Initiators. The first storage client, in order to connect to target0 please setup multipath with following IP on the initiator side: 192.168.21.101 and 192.168.31.101. In order to connect to target1 please setup multipath with following IP on the initiator side: 192.168.22.101 and 192.168.32.101.

For the next storage client please setup multipath accordingly: for access to target: 192.168.21.102, 192.168.31.102 and for access to target1: 192.168.22.102, 192.168.32.102.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

8. Test Failover Function

In order to test Failover, go to the **Resources pool manager** function. Then, in the **local node** resources, click on the **move to remote node** button and confirm this action by clicking the **move** button.



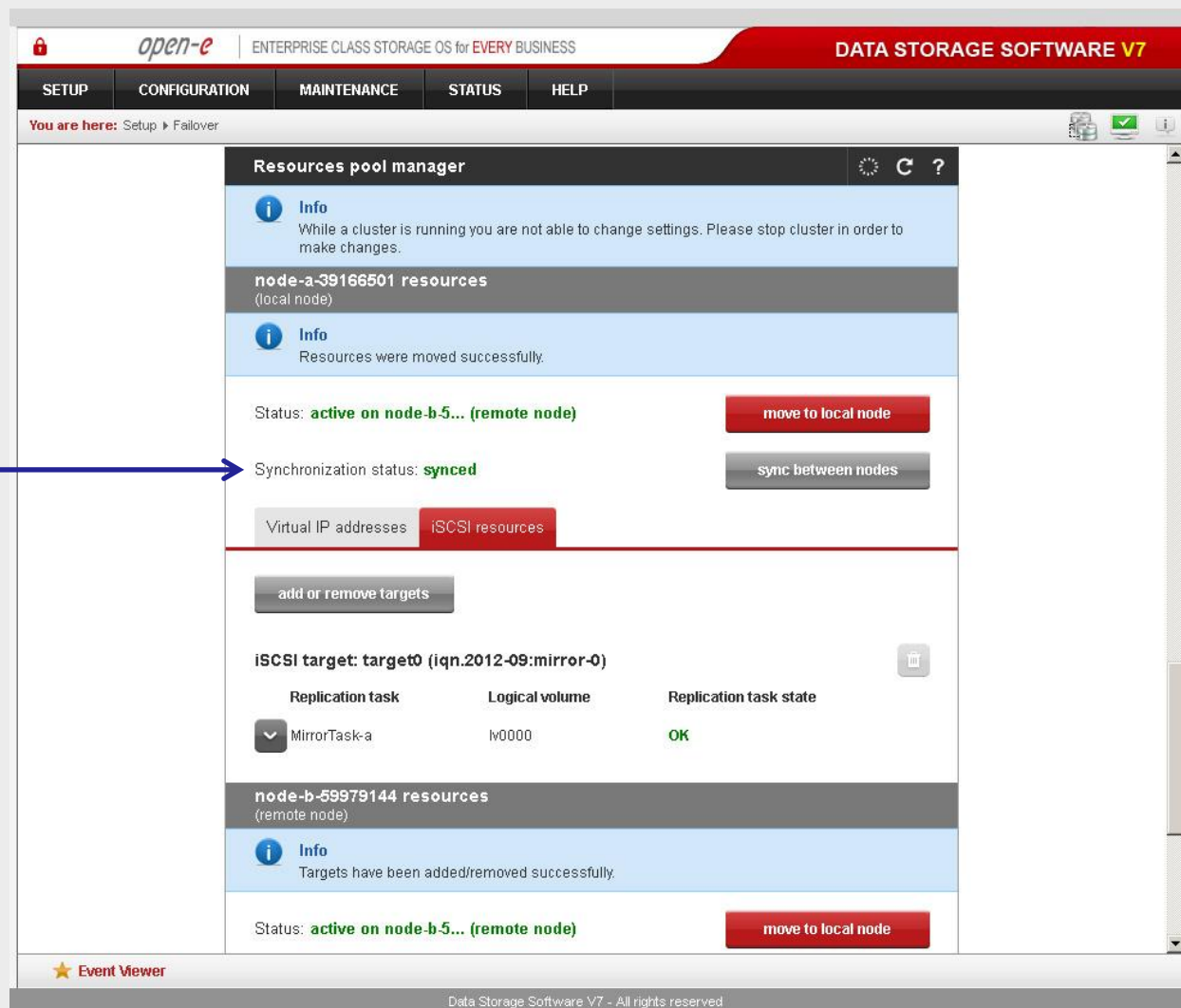
Data Server (DSS1)

node-a

IP Address:192.168.0.220

8. Test Failover Function

After performing this step, the status for **local node** resources should state „active on node-b (remote node)” and the **Synchronization status** should state „synced”.



The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The main content area is titled "Resources pool manager" and displays information for "node-a-39166501 resources (local node)". A message indicates that resources were moved successfully. The status is shown as "active on node-b-5... (remote node)" with a "move to local node" button. The synchronization status is "synced" with a "sync between nodes" button. Below this, there are tabs for "Virtual IP addresses" and "iSCSI resources". The iSCSI resources section shows a table with columns for Replication task, Logical volume, and Replication task state. The table contains one entry: "MirrorTask-a", "lv0000", and "OK". At the bottom, there is a section for "node-b-59979144 resources (remote node)" with a message indicating that targets have been added/removed successfully. The status is "active on node-b-5... (remote node)" with a "move to local node" button. The footer includes an "Event Viewer" icon and the text "Data Storage Software V7 - All rights reserved".



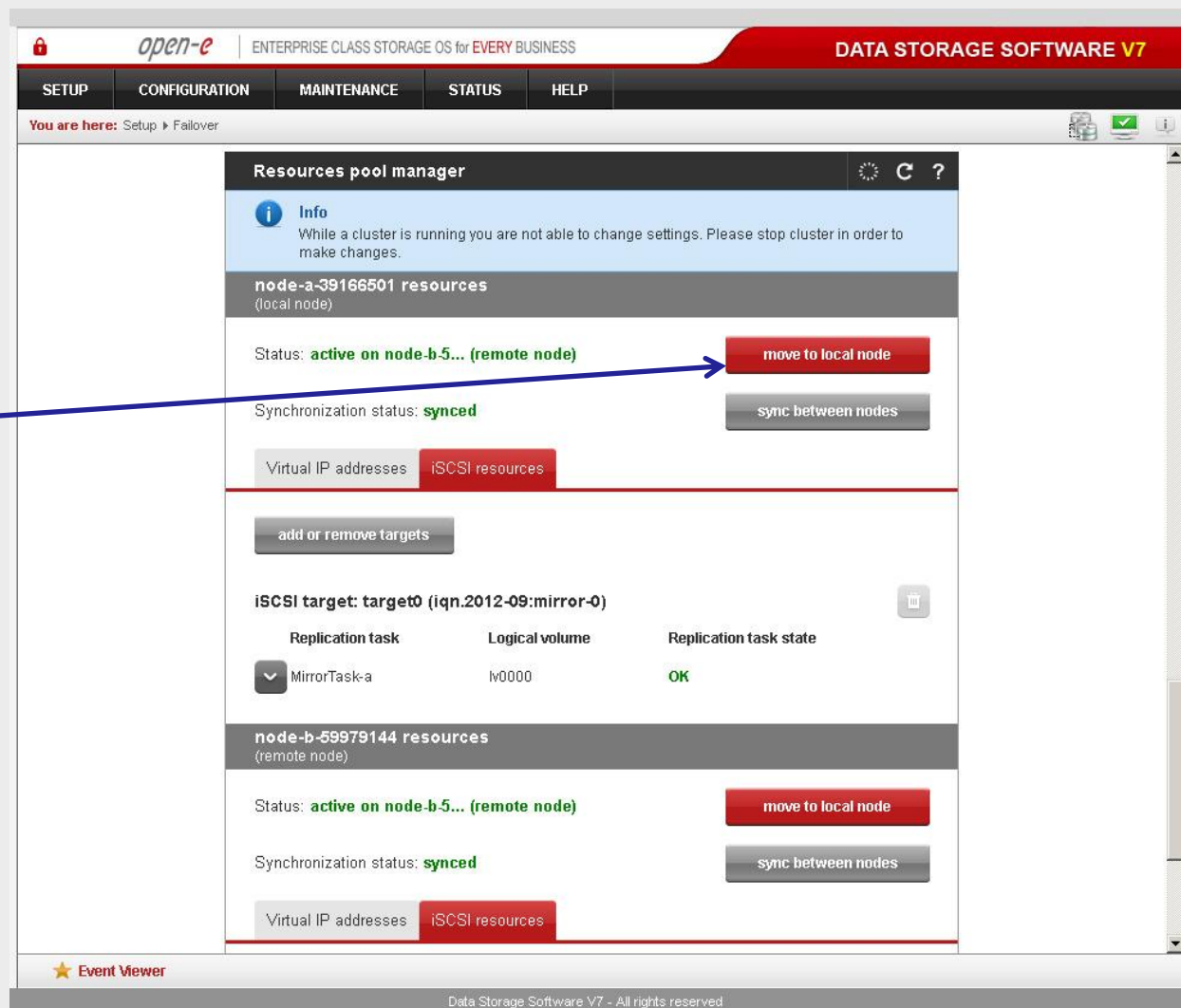
Data Server (DSS1)

node-a

IP Address:192.168.0.220

9. Run Failback Function

In order to test failback, click the **move to local node** button in the **Resources pool manager** box for local node resources and confirm this action by clicking the **move** button.



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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

Resources pool manager

Info
While a cluster is running you are not able to change settings. Please stop cluster in order to make changes.

node-a-39166501 resources (local node)

Status: **active on node-b-5... (remote node)** **move to local node**

Synchronization status: **synced** **sync between nodes**

Virtual IP addresses | **iSCSI resources**

add or remove targets

iSCSI target: target0 (iqn.2012-09:mirror-0)

Replication task	Logical volume	Replication task state
MirrorTask-a	lv0000	OK

node-b-59979144 resources (remote node)

Status: **active on node-b-5... (remote node)** **move to local node**

Synchronization status: **synced** **sync between nodes**

Virtual IP addresses | **iSCSI resources**

★ Event Viewer

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

9. Run Failback Function

After completing this step, the status for node-a resources should state „active on node-a (local node)” and the **Synchronization status** should state „synced”. Then, you can apply the same actions for **node-b resources**.

NOTE:

The Active-Active option allows configuring resource pools on both nodes and makes it possible to run some active volumes on node-a and other active volumes on node-b. The Active-Active option is enabled with the TRIAL mode for 60 days or when purchasing the Active-Active Failover Feature Pack. The Active-Passive option allows configuring a resource pool only on one of the nodes. In such a case, all volumes are active on a single node only.

The configuration and testing of Active-Active iSCSI Failover is now complete.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes links for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The main content area is titled "Resources pool manager" and displays information for two resource pools: "node-a-39166501 resources (local node)" and "node-b-59979144 resources (remote node)".

For the "node-a-39166501 resources (local node)" pool, the status is "active on node-a-3... (local node)" and the synchronization status is "synced". There are buttons for "move to remote node" and "sync between nodes".

For the "node-b-59979144 resources (remote node)" pool, the status is "active on node-b-5... (remote node)" and the synchronization status is "synced". There are buttons for "move to local node" and "sync between nodes".

The interface also shows a table of iSCSI targets and replication tasks. The replication task "MirrorTask-a" is shown with a status of "OK".

Thank you!

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